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EXAMINER	
CHEN, TE Y	
ART UNIT	PAPER NUMBER
2161	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/15/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/007,003	PATEL ET AL.	
	Examiner	Art Unit	
	Susan Y. Chen	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,43 and 62-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,43 and 62-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

This office action is in response to the amendment filed on Dec. 18, 2006.

Claims 1-12, 43 and 62-70 are pending for examination; claims 1 and 3-10 have been amended; claims 62-70 have been amended.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 62 and 67, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No.

7,146,524. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claims 62 and 67 of the present application merely repeat the features of claims 1 and 5 of the U.S. Patent No. 7,146,524 with broader scope. However, it is obvious for an ordinary skilled person in the art at the time the invention was made to modify the broader claims (i.e., 62 and 67) of instant invention with common details as recited in the claims 1 and 5 of the 7,146,524 patent for the purpose to clarify the limitations of his/hers invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 62-70, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claims 62 and 67, the claimed subject matter "assemble the file" is new, because it is not supported in the instant specification.

As to claims 63-66 and 68-70, these claims have the same defects as their base claims respectively, hence, are rejected for the same reason.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the claimed subject matter " distributing...in a manner for the storage system and for each file" is new, because the mete and bounds of claimed manner is not defined in the instant specification.

As to claims 2-12 and 43, these claims have the same defects as their base claims respectively, hence, are rejected for the same reason.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12, 43 and 62-70, are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (U.S. Publication No. 2003/0014391), in view of Massa at al. (U.S. Patent No. 6,934,878).

As to claim 1, Evans et al. (hereinafter referred as Evans) discloses a distributed file system [e.g., Abstract, Fig. 1 and associated texts], comprising:

A plurality of storage modules in communication with each other [e.g., Fig. 1], said plurality of storage modules including:

a first storage module including a processing module [e.g., the forward computer P cluster, Fig. 1];

a second storage module including a processing module [e.g., the application layer packet forwarding computer C1, Fig. 1];

a third storage module including a processing module [e.g., the application layer packet forwarding computer C2, Fig. 1];

a forth storage module including a processing module [e.g., the application layer packet forwarding computer C3, Fig. 1];

a file stored on the distributed file storage system [e.g., P.1, Sections: 0001-0005, P. 3, Sections: 0035-0036];

a first file portion of the file comprising a first set of file data stored in the first storage module [e.g., Fig. 2b and associated texts];

a second file portion of the file comprising a second set of file data stored in the second storage module, wherein the second set of file data is different from the first set of file data [e.g., Fig. 2a and associated texts];

a first metadata related to the location of the file stored on the first storage module, the second storage module, the third storage module, and the forth storage module [e.g., P. 4, Section: 0055];

a second metadata related to the location of the file stored on at least one of the first storage module, the second storage module, the third storage module, and the forth storage module but not on all of said storage modules [e.g., P1, Section: 0014, P.4, Sections: 0052-0054];

a switch module in communication with the set of storage modules to receive a read request for the file stored on the distributed file system and to sent the read request to any one of the plurality of storage modules [e.g., P. 1, Sections: 0004 – 0012];

each of the set of storage modules use the first metadata to respond to and implement the read request on behalf of the distributed file storage system [e.g., Fig. 1 and associated texts];

an allocator module for distributing the first and second metadata and the file portions in a manner appropriate for the storage system and for each file [e.g., Sections: 0005-0006, 0057 & the use of multicasting address schema as shown in Fig. 2a-b].

Evans did not explicit cite that the allocator module distributes the claimed subject matters across the storage modules.

However, Massa et al. (herein after referred as Massa) clearly discloses the claimed features [e.g., col. 1, lines 16-24].

Evans and Massa are both in the same endeavor to optimize the storing of data over program storage device [e.g., Evans: claim 6, Massa: Fig. 1], hence, with the teachings of Evans and Massa in front of him/her, it would have been obvious for an ordinary skilled person in the art at the time the invention was made, to apply the well known data distribution techniques as taught by Massa in Evan's system, for the purpose to distribute data across storage modules, such that, the combined system is upgraded as a robust storage system that includes the capability to recover data from the working disk drives if one disk drive fails in the system in a combination as suggested by Massa [e.g., Massa: col. 1, lines 14-24].

As to claim 2, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses the system comprising error correction data related to the file, and stored in the distributed file storage system [e.g., Evans: P. 7, Section: 0077].

As to claim 3, in addition to the features recited in claim 2, the combined system of Evans and Massa further disclose the error correction data include parity information [e.g., Massa: col. 1, lines 20-26].

As to claim 7, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses that each of the storage modules are configured to receive a request to and initiate the request to move the first file portion in real-time from the first storage module to the third storage module and to send a request to update the second metadata to indicate the location of the moved first file portion [e.g., Evans: P.1, Section 0016 – P.2, Section 0017].

As to claim 8, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses that each of the storage modules are configured to receive a request to and initiate the request to replicate the first file portion in real-time from the first storage module to the third storage module and to send a request to update the second metadata to indicate the location of the replicated first file portion [e.g., Evans: P.1, Sections: 0022-0023].

As to claims 9-10, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses that the second metadata includes metadata related to the locations that the file data is stored and the parent directory of the file [e.g., Evans: P. 2, Section: 0024].

As to claims 11-12, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses that the claimed read/write transaction features cited by applicant. [e.g. Massa: col. 1, lines 20-44].

As to claim 43, in addition to the features recited in claim 1, the combined system of Evans and Massa further discloses the file has been stored on a number of storage modules, wherein the number is equal to or grater than two is an intended use of distributing file processing [e.g., Evans: Fig. 1 and associated texts].

Claim Rejections - 35 USC § 103 (Continue)

Claims 4-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system of Evans and Massa as applied to claims 1-2 above and further in view of Beardsley et al. (U.S. Patent No. 6,502,174).

As to claim 4, the combined system of Evans and Massa did not expressly disclose the parity information includes parity data block and location information indicating where the parity data blocks are stored, wherein such location information is used later to retrieve the parity blocks and the second metadata further indicates the location information.

However, Beardsley further discloses the parity information includes parity data block and location information indicating where the parity data blocks are stored, wherein such location information is used later to retrieve the parity blocks and the

second metadata further indicates the location information [e.g., Beardsley: Fig(s). 2-3 and associated texts].

The combined system of Evans, Massa and Beardsley are in the same endeavor to optimize the data storage processing via metadata mapping technique [e.g., Evans: 25, Fig. 3, Beardsley: Fig. 2], therefore, with the combined system of Evans, Massa and Beardsley teachings in front of him/her, it would have been obvious for an ordinary skilled person in the art at the time the invention was made to be motivated to modify the combined system with the metadata structure taught by Beardsley, because by doing so, the combined system would be able to apply the parity information in the error message to check data message accuracy, therefore, result in a reliable data transmission system.

As to claim 5, in addition to the features as recited in claim 2, the combined system of Evans, Massa and Beardsley further discloses that the error correction data includes redundancy data related to the file, and the second metadata further indicates the location of the redundancy data [e.g., Beardsley: Fig(s) 2, 7a-c and associated texts].

As to claim 6, in addition to the features as recited in claim 5, the combined system of Evans, Massa and Beardsley further discloses that the first metadata related

to the location of the file includes metadata related to the root directory [e.g., Evans: P. 2, Section: 0024].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 62 and 67, are rejected under 35 U.S.C. 102(b) as being anticipated by Mason, Jr. (U.S. Patent No. 5,884,098).

As to claims 62 and 67, Mason, Jr. discloses the following as claimed by applicant, comprising:

several storage modules linked together, each of which is configured to handle read and write requests on behalf of the entire distributed storage system [e.g., Fig(s). 1 & 3 and associated texts];

directory metadata configured to be used to identify the location of each file stored on the storage system, the directory metadata is distributed across at least some of the several storage modules and more than one storage module must be used in order to locate a file [e.g., col. 1, lines 36-65];

an allocation module configured to allocate the directory metadata across the storage modules of the storage system as appropriate to optimize the functionality of the storage system [e. g., col. 6, lines 16-50].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 63-66 and 68-70, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mason, Jr. (U.S. Patent No. 5,884,098) in view of Evans et al. (U.S. Publication No. 2003/0014391).

As to claims 63 and 68, Mason, Jr. did not expressly disclose that the directory metadata is arranged in a hierarchical structure.

However, Evans discloses the directory metadata is arranged in a hierarchical structure [e.g., Abstract, lines 6-19, Sections: 0059 – 0060].

Mason and Evans are Evans and Mason are both in the same endeavor to optimize the storing of data over program storage device via metadata [e.g., Mason: Fig. 2, Evans: claim 6], hence, with the teachings of Mason and Evans in front of him/her, it would have been obvious for an ordinary skilled person in the art at the time the invention was made, to apply the well known hierarchical data structure techniques

as taught by Evans in Mason's system, because by doing so, the combined system will include a hierarchical directory metadata structure, such that, it facilitates a network multicasting data distribution and allows the users to receive only data set as they desired [e.g., Mason: page 1, Sections: 0002-0005].

As to claims 64 –65 and 69-70, in addition to claim 63, Mason, Jr. further discloses that the directory metadata includes a first and a second metadata structure in order to locate a file, said first directory metadata structure referencing said second directory metadata structure and said second directory metadata structure reference the file as desired [e.g., col. 2, lines 24-52, Fig. 2 and associated texts].

As to claim 66, the claimed feature read by the nature of strip in a RAID array system.

Response to Arguments

Applicant's arguments with respect to claims 1-12 and 43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mofiz Apu can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Y Chen
Examiner
Art Unit 2161

February 6, 2007